DOCUMENT RESUME

ED 198 091 SP 017 272

AUTHOR Ryan, Kevin
TITLE Inside the Black Boxes: The Process of Teacher Education.
PUB DATE [80]
NOTE 16p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Beginning Teachers; *Educational Assessment; Educational Objectives; Formative Evaluation; *Input Output Analysis; *Inservice Teacher Education; Postsecondary Education; *Preservice Teacher Education; *Systems Analysis; Teacher Educators

ABSTRACT

Three stages of teacher education are examined: preservice; the induction phase, defined as the first few years prior to the tenure decision; and inservice training. It is noted that there is often an incongruity between the real purpose of preservice students and that of their teachers in a teacher education system. Preservice students going through education programs may be unclear about why they are there and have a very low level of commitment to teaching. Teacher educators often fail to recognize the true goals and concerns of their students. The beginning teacher, faced with new challenges and dilemmas, is often highly committed and open to learning experiences. This stage is looked at as perhaps being the inception of genuine teacher education. The inservice training stage is of such broad scope and encompasses so many teachers at different stages of their careers that its usefulness may be questioned in many cases. (JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
✓ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

INSIDE THE BLACK BOXES: THE PROCESS OF TEACHER EDUCATION

Kevin Ryan
The Ohio State University

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Kevin Ryan
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED198091

In recent years the vocabulary of the teacher educator has borrowed heavily from general systems theory. To call the education of teachers a system is to employ metaphor: a particular set of words is used to capture the reality of what has gone on under the labels of teacher education and teacher training. The purpose of this paper is to discuss one of the key terms in systems thought, process, and how it relates to the education of teachers. Another purpose is to see what issues and questions can be generated from an examination of process and other systems terms. The major sources for the systems concepts in this paper are first, Bela Banathy and second, Desmond Cook. Bela Banathy defines the system as a collection of interrelated and interacting components that work in integrated fashion to attain predetermined purposes.[1] For example, a bicycle is a mechanical system; A robin is a biological system, and The Republican Party is a social system. For Banathy each system has its purpose or purposes. That is, what it attempts to accomplish. The system's purposes are achieved through the process operations of the system. Normally, there are other components which are the working parts of the system and are subordinate to the process. Normally, the components interact to create the processes designed to achieve the system's purpose.

My colleague, Desmond Cook, the designer of the PERT system, speaks of systems in a way that highlights the process dimension.[2] He calls a system a processer unit. The process is what changes or transforms the system's input to the output. In the teacher education system, then, it is the

SP 017 272

process that supposedly transforms the student into a teacher.

One way to get a clearer sense of the teacher education process is to modify slightly Ross Ashby's analog of the system as black box.[3] For heuristic purpose, Ashby pictures a system as a black box with an input that is clear, with an output that is clear, but whose internal processes are unknown. When we apply this analog to teacher education, modifications need to be made. We know some things about the inputs. We know some things about the outputs. And we know some things about the internal workings of the box. Further, since the purpose of this paper is to look at the entire sweep of teacher education, it may be more useful to think of three black boxes: one for preservice; one for the induction phase (which I would define as the first few years prior to the tenure decision); and the third box, the teacher's inservice training. The focus, then, is on what goes on inside these three black boxes. But first, the purposes.

Purposes

The purpose of a system has direct bearing on a system's process and components. The general purpose of teacher education--that is all three boxes--is, we presume, to initially train an adequate supply of effective teachers to enter into professional life and to maintain and improve their professional skills. I believe that this or something like it is the unexpressed, but generally agreed upon purpose of teacher education. The goal of this purpose, to train "effective teachers" is the output of the system. Unfortunately, this specification of the system's output has been a troublesome issue for our field. There has been much hand wringing, breast beating and soul searching over the fact that we do not have an empirically derived definition of the "effective teacher." Much to the discomfort of many in our field, the intended output of our programs and inservice efforts, is a

matter of one's value judgment, someone's or group's preferences. While hardly a felicitous condition, teacher educators can take a bite of comfort since they have a good deal of company among medical educators, law educators, and social work educators.

On the other hand, this inability to determine scientifically what is an effective teacher, and therefore have a scientifically satisfying goal for our programs, may be being used as a mask for our own inaction. Many in our field are failing to do the hard work of defining what knowledge, what skills, what strategies, what attitudes and what values we value, and, therefore, we commit ourselves to as the goals of our program. While engaging in such an imprecise practice may bother many, the consequences of not doing that are much worse. Without this clarity of purpose, the system becomes rudderless. Not having an agreed upon aim for the system, the trainers and trainees are free individually to interpret what they are doing and where they are going. When this happens the process begins to fall apart. The components fail to mesh and the original purposes for coming together in a system dissolve.

However, having a clearly defined purpose and a well articulated goal does not guarantee success. Systems, particularly human systems, evolve other purposes as they grow and develop. Some of these alternative purposes become visible and legitimate. Some are subterranean. Sometimes they affect the system's ability to achieve its stated purpose. For example, a teacher education program in a small liberal arts college may have been designed to develop scholar teachers. Over the years as the college began to face substantial economic problems and enrollment declined, the purposes of teacher education in the institution may have been altered to be a low-cost, high-enrollment unit which will, in effect, financially support a disproportionately

large portion of the college's total operation. Or, a regional state university's teacher training program might be used by the central administration to impress the state legislators of the great contribution the university as a whole is making to the welfare of the state. Or, a large state university might experience a shift in purposes over the years so that its true purpose now is to support doctoral candidates who function as T.A.s and carry largely by themselves the teacher education program. Or, a private research-oriented institution can evolve so that its true purpose for being involved in teacher education is to enable a handful of faculty members to do research and speculate about teacher education.

Similarly, the official purposes of inservice can stray from the official line. It can become a justification for the hiring of so many administrators or a vehicle for the superintendent to assimilate a particular educational change with which he is currently enamored.

There is, too, the purposes of the people--notice I did not say input--in this system. The system expects that the person who has presented himself for training has a set of purposes that is on the whole congruent with the purposes on the assumption that the trainee shares its purposes. For instance, the trainee may have entered the program in order not to expend too much time or intellectual energy and, also, have at the end a career insurance policy in the form of a teaching certificate. Or, to go to the second black box, the induction system for beginning teachers: the purpose of the system designers may be to take an unfinished teacher and provide advanced training in the form of more highly developed professional skills. On the other hand, the purpose of the first-year teacher may be simply to get a contract and become a second-year teacher. In like manner, the purpose of the third box of the inservice training system may be to provide specific skills or to train the teacher in

new areas. On the other hand, the purpose of the experienced teacher may be to get to a higher level on the salary schedule without having to cut too deeply into their discretionary time and energies.

This whole area of system's real purposes needs much greater clarity and, I believe, we need to know much more about the congruity between the real purposes of the system and the real purposes of the trainers and trainees involved in the system's processes.

Process Components

The human transformations that are to go on in each of these three systems, preservice, induction and inservice, are carried out by process components, components which, in effect, do the work of the system. They are designed to actually make the changes. There is a difficulty here, though. For instance, in a mechanical system, such as a V-8 engine, the process components have certain very observable attributes. However, when we speak of teacher education, we need to operate at a different level of generality. The components are neither as observable nor as sharply defined. Nevertheless, there are activities going on within the boxes that most people would agree fit with certain labels.

Preservice Components Most college catalogs in describing teacher education programs list certain components not unlike the following: introduction to education, special methods courses, psychological, historical and philosophical foundations, and some form of student teaching.

Increasingly, programs are adding early experience or career exploration components. Many of the components have subcomponents such as microteaching, simulations of classroom problems, and various clinical experiences. These individual components, then, are expected to make a change in the

preservice student. Layed out in a certain configuration, they are expected to take a non-teacher and transform him into a teacher.

My colleague, Desmond Cook, tells me that a system is what we decide to call it. He means, I believe, that we draw the system's boundaries and we, therefore, can include or exclude what we want. With this in mind, it might be worthwhile just to point towards some possible other preservice teacher training components, ones that are not in the college catalog. For example, neo-Freudians would suggest we learn to be teachers while still in the crib. Benjamin Wright suggests that our orientation as a teacher is strongly affected by our early social interactions with parents and other siblings.[4] Another component that has long fascinated me is the effect quite unknown of the long years of teacher watching that all of us undergo before entering teacher education. My calculations suggest that we have each watched the equivalent of ten thousand full length movies of the teaching process. I find it impossible to conclude that this has not had a substantial impact on our behavior as teachers. It would appear, we have ignored a number of the more interesting process components in our study of pre-service teacher-education.

The Induction Components At the outset, we must acknowledge that it is difficult to talk about the teacher training that goes on during the induction period. For one thing induction is not a very well defined concept in education. We speak of new teachers and a probationary period, but we do not know a great deal about the process. Nor is there a clear or well defined set of interventions or process components to which we can point. The following list is suggestive of some things that some school districts do for beginners, particularly in the first year of their induction period: the orientation meetings for new teachers prior to the beginning of the school year; special meetings of first year teachers with administrators and others, such as representatives of the

teachers association; a formal or informal buddy system; and a few classroom observations and follow-up conferences. In most cases these components disappear or drop off in frequency after the first year. Nevertheless, until tenure, the beginning teacher receives a special scrutiny, if not special assistance.

Inservice Components The components of inservice training are more discernable than those of the induction period, but still a good deal less obvious and less precise than the preservice components. One way to break down these components would be to categorize them into those the teacher pursues on his own and those he pursues with other teachers in his building. The most obvious among the first group, those he pursues on his own, are graduate courses and graduate programs. Some of these components are directed at improving the teacher in role, that is, improving his teaching performance. Others are training for new roles, such as guidance counselor and have little relationship to his current teaching. Increasingly, the graduate program in education is becoming a major component in the teacher's inservice development. As of 1976, thirty-seven percentage of teachers hold masters degrees, and one would guess a large percentage are in the process of acquiring such degrees.

Other components which are becoming increasingly popular about which we know relatively little are professional leave days and sabbaticals. However, it is a common requirement that the teacher specify what it is he or she will gain as a result of the experience.

The most wide spread type of inservice is that provided for teachers as a collective, normally at the building level. Some of this inservice

training is highly focused. For instance, the school decides to adopt a new mathematic series and all the elementary teachers in the building need to be trained in the new approach. Or, it is decided that discipline is a major problem in the school and all teachers undergo training in a particular method of classroom management.

Another type of collective inservice training would be a more generalized type of training, such as instruction in new methods of reading where the intention is to provide staff development rather than to prepare teachers to do something specifically different.

Somewhere between these two types of components, the individually pursued and the group experience components, is the teacher center, a relatively new concept. Here, the teacher as an individual or with colleagues of his choosing engages in activities that normally relate directly to his own teaching concerns.

These, then, are the more or less discernable components that are in place, and supported as part of a transformation process, as part of a process that is supposed to help the trained teacher become more effective as a professional.

Environment

The process of teacher education is not the sum of the actions of the components on the input. Environmental factors surround the process and its individual components. While extracurricular activities and other distractions of university life have effects on the outcomes of training programs, the impact of the environment on the induction and inservice phase of teacher education seem more obvious. One set of

environmental factors are the expectations of students and parents. Surely, the kind of teacher one becomes is influenced by whether one is teaching in Scarsdale, New York or in the South Bronx. So, too, for the expectations or professional culture established by one's teacher colleagues. Another important environmental factor is the state of the job market. If the job market is tight, one would suspect the behavior of the untenure teacher is affected. Many other environmental factors, such as faculty moral, administrative style, possibly even the age of the faculty represent what might be called the hidden curriculum of induction and inservice teacher education. Surely, these environmental factors have some effect on the teacher and on how he experiences the more visible components.

The Configurations of Teacher Education

The components of teacher training are normally seen as interacting together as part of a total process. They can, however, interact in very different configurations or delivery systems. This is perhaps most dramatically seen in preservice phase. The dominant configuration is undergraduate teacher education. Ninety percent or more of teachers become professionals using this route.

During the 1960's and '50's, though, another delivery system was rather widely used, the post-baccalaureate training program. The most well known of these is the MAT or Master of Art in Teaching pattern. This alternative approach allows not only for a late decision into teacher education, but provides the teacher, particularly the secondary school teacher, with more opportunity to take courses in his teaching field. Although there is some continued study of one's content field in this

graduate program, the concentration is on the professional components. As the teacher shortage turned into a surplus, the MAT pattern has become less popular.

A third configuration is what I would call, for lack of a better word, the "slip through" configuration. Here the student skirts the formal preservice teacher education programs and somehow finds a job in a classroom and later some form of state certification. Many private and parochial schools recruit from people who have bypassed teacher training. Some of these teachers have taken some of the components in programs, but never had the time or opportunity to take the full sequence. While fifteen years ago it was quite common for public schools to hire people who had utilized the "slip through" configuration, this is not the case today.

Research on Process

There are several plaguing problems with research on the process of teacher education. One of the most vexing, mentioned earlier, is that we do not have a common product or output in mind. A second problem has to do with the process components. We have approximately 1,369 colleges and universities preparing teachers. Many of these institutions maintain several different teacher training programs. For instance, my own institution, Ohio State University, has some twenty-three distinct programs. Therefore, one cannot count on a process component, such as an educational psychology course or special methods course to be the same from one institution to the next. There is a great variability in how these process components exist and function in programs. For instance, if we say that fifty-five percent of the teacher education programs in the country employ

the process component microteaching, what are we saying? I fear, not a great deal. For although microteaching is a comparatively well defined process component, the different ways in which it is applied presumably has widely different effects. In some programs the microteaching students are children. Some preservice teachers are given opportunity to master many skills in a microteaching setting. The preservice student progresses from one skill to the next only after attaining a relatively high level of mastery and spending many many hours in this training component. In another program microteaching may be done with other preservice students acting as teachers and students. One or two skills are practiced and levels of mastery are not specified. Nevertheless, both programs claim microteaching as a process component.

Added to the unclear product problem and the lack of clarity about the components, there is the question of the process itself. I have wondered about the impact of what goes on inside our three black boxes, particularly the preservice box. Other than a strong hunch that field-based experiences have an impact or impacts--and these impacts are probably both positive and negative--it is a real question whether the total process has a substantial impact on its trainees. One might argue, lacking any substantial evidence to the contrary, that teacher education is a very weak treatment. Indeed, it may be a little more than a placebo. (Which, incidently, is not to argue for the abolition of teacher education. As every successful doctor knows even placebos are useful.)

It is questionable, however, that the few research resources that we have available to us to study teacher education are most fruitfully spent measuring the impact of specific process components in specific environ-

ments with particular teachers and students or even the process as a whole. I am persuaded by a question that Frances Fuller and Oliver Bown raised a few years ago in the NSSE Yearbook on Teacher Education.[5] After acknowledging the importance of the question, "Which interventions by which interveners in which situations elicit what responses from which prospective teacher?" Fuller and Bown end their essay with the plea that we answer a more fundamental question, "What is out there?" If for no other reason but to make informed judgments about how to use our limited training resources in teacher education, we must know the answer to the question, "What's out there?" For purposes of clarification let me suggest a few questions about what is out there which are not about the system's components or products, but its people (inputs) and environment surrounding the components. For instance, we need to know who is going into teacher education today? What do they really know about their content fields? What do they want from college, from a career, from life? What are they experiencing as they go through a pre-established teacher training process? This question is interesting to me because I suspect that we have designed our training programs for someone who we believe has made a clear career choice and is committed to teaching. Is it possible that many of the people going through our programs are unclear about why they are there and have a very low level commitment to teaching? If so, how does this affect the way they go through the training program? I hear little recognition among teacher educators of the other things that are competing for the attention of their students, such as their struggle to break away from their parents and become independent; their quest for new friendships; their gappling with new problems, such as an incompatible roommate; their

search for a marriage partner; the intellectual and emotional turmoil they are experiencing as values and deeply held faiths are threatened. What I am suggesting is that we know very little about the relationship of our training and what is really going on in the minds and emotions of our students. In any event, we need to know much more about the match between student input and program process.

Moving to the next box, the induction box, it seems that we have the reverse situation. We finally have the young person's attention, but we have no training process. Let me be more specific. Those of us who have scratched the surface of what's going on in the life of beginning teachers have a very distinct sense that something very powerful is going on here. Contrary to the picture of the distracted preservice young person, the beginning teacher is extremely aroused, if not overchallenged. What we see in many cases is a new teacher who has lulled him into a false security by a sheltered student teacher experience. Early in the first term as a teacher in his own classroom he experiences a crisis, usually related to classroom management and he is aroused as in no other time in his life. His job and, indeed, his personhood have been threatened. Now, he is ready to learn to be a teacher. He begins a search for "what works." He is ready to follow anyone who can give him an answer. And if it looks hard enough, answers do come from the environment. His administrators, his colleagues, and even his students indicate what is acceptable and valued behavior. It would seem that at this time of doubt and vulnerability the real teacher education goes on and again we know very little about it.

When we move to the third box, the inservice teacher education box,

a real process of diffusion goes on. Here we are talking about over two million professionals at different levels with very distinct kinds of needs in thousands of different schools and variables. I think, nevertheless, that the question is still "What's out there?" We need to have a much better fix on what is going on in the minds of teachers inservice. The question that I have personally been interested in in the last several months is whether or not for the majority of teachers, teaching should be a life time career. It may be that in the very nature of teaching it is for many a "burn out" career. By that I mean an activity that is so physically and psychologically demanding that they can only do it for a relatively short period, perhaps three or four or five years. If this hypothesis is correct, inservice training may be the proverbial band aid on a gaping wound. Recent research by my colleague Katherine Newman of the University of Houston suggests that formal inservice process has little meaning and less value to veteran teachers.[6] Newman's teachers, who have taught anywhere from nineteen to thirty-five years, range in attitude toward inservice training from mere tolerance to disgust.

Summary

If we are seriously to pursue the question of what is out there, we should attend to the story about the empirical scientist who wished to find out about all the living creatures that exist in the sea. He cast the net into the sea, examined the catch and then proudly announced the empirical law, "all sea creatures are no more than two inches long." If we are to get past the obvious, the two inch creatures, we need to attend to our nets.

Kevin Ryan
Professor of Education
Ohio State University

FOOTNOTES

[1]Banathy, B. Instructional Systems. Palo Atlo, Cal.: Fearon Publishers, 1968, 4.

[2]Cook, D. Personal Communications. Dec., 1978.

[3]Ashby, W.R. General Systems Theory as a Discipline in L. von Bertalanffy and A. Rapoport (Eds.) General Systems, Yearbook of the Society for General Systems Research, (Vol. III). Ann Arbor, Mich.: Univ. of Michigan Press, 1958, 1-6.

[4]Wright, B.D. and Tuska, S. From dream to life in the psychology of becoming a teacher. School Review, 1967, 75, 205-215.

[5]Fuller, F. and Bown, O. Becoming a Teacher in Kevin Ryan (Ed) Teacher Education: The Seventy Fourth Yearbook of the National Society for the Study of Education (Part II) Chicago: Univ. of Chicago Press, 1975, 52.

[6]Newman, K. Middle-Aged Experienced Teachers' Perceptions of Their Career Development. Doctoral dissertation, Ohio State Univ., 1978, 269-70.